IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant:	Jerry G. AGUREN	§	Confirmation No.:	5688
Serial No.:	10/669,822	§	Group Art Unit:	2163
Filed:	09/24/2003	§	Examiner:	M. P. Nguyen
For:	Method And System For Implementing Storage Strategies Of A File Autonomously Of A User	§	Docket No.:	200308699-1

APPEAL BRIEF

Mail Stop Appeal Brief – Patents
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Date: December 19, 2007

Sir:

Appellant hereby submits this Appeal Brief in connection with the above-identified application. A Notice of Appeal is being electronically filed concurrently herewith.

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I. REAL PARTY IN INTEREST

The real party in interest is the Hewlett-Packard Development Company (HPDC), a Texas Limited Partnership, having its principal place of business in Houston, Texas. HPDC is a wholly owned affiliate of Hewlett-Packard Company (HPC). The Assignment from the inventor to HPDC was recorded on September 24, 2003, at Reel/Frame 014554/0027.

II. RELATED APPEALS AND INTERFERENCES

Appellant is unaware of any related appeals or interferences.

III. STATUS OF THE CLAIMS

Originally filed claims:	1-25.
Claim cancellations:	4.
Added claims:	None.
Presently pending claims:	1-3 and 5-25.
Allowed claims:	1-3, 5-14 and 19-25[1]
Presently appealed claims:	15-18.

[1] The Office action of September 19, 2007 indicates that claim 4 is allowable; however, claim 4 was cancelled in the Response filed July 20, 2007.

IV. STATUS OF THE AMENDMENTS

No claims were amended after the final Office action dated October 19, 2007.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The various embodiments are directed to a method and system for implementing storage strategies of a file autonomously of a user.[2] At least some of the illustrative embodiments are systems as in claim 15:

> 15. A system comprising:
> a client computer;[3]
> a server coupled to the client computer;[4]
> a first storage device coupled to the server having a storage attribute;[5]
> a second storage device coupled to the server having a storage attribute;[6]
> wherein the server is configured to accept files in a user namespace and in a user file structure;[7] and
> wherein the server stores the file on at least one of the first and second storage devices in a global namespace different than the user namespace,[8] the selection of the storage location made by the server based on the attributes of the storage devices and storage preferences for the file.[9]

Yet still other embodiments are systems as in claim 16:

> 16. The system as defined in claim 15 wherein the server further comprises:
> a software agent that executes on the server;[10]
> wherein the software agent interfaces with the client computer and simulates the network storage device operating in the user namespace;[11] and

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[2] Specification Title.

[3] Page 6, Paragraph [0020], lines 2-3 within the paragraph. Citations to the specification from this point forward take a shorthand notation of the form ([page number], [paragraph number], lines [lines within the paragraph]). The citation of this footnote in the shorthand form reads: (6, [0020], lines 2-3). *See also*, Figure 2, element 30.

[4] (6, [0020], lines 2-3), Figure 2, element 32.

[5] (6, [0020], lines 3-5), Figure 2, elements 36, 38 and 40.

[6] (6, [0020], lines 3-5), Figure 2, elements 36, 38 and 40.

[7] (11, [0030], lines 9-12), Figure 4, element 76.

[8] (12, [0031], lines 1-6), Figure 4, element 78

[9] (12, [0031], lines 7-12), Figure 4, element 82; (12, [0032], lines 5-9), Figure 4, element 84.

[10] (8, [0025], lines 1-22), Figure 3, elements 56, 58 and 62.

[11] (8, [0025], lines 9-12), Figure 3, element 56.

wherein the software agent decides on which of the first and second storage devices to store the file based on the attributes of the storage devices and the storage preference for the file.[12]

[12] (9, [0026], lines 1-27), Figure 3, elements 58 and 62.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 15-18 are anticipated under 35 USC § 102(e) by Mikesell (U.S. Publication No. 20040153479)

VII. ARGUMENT

A. Section 102 Rejections over Mikesell

1. Claim 15 and 17-18

Claims 15 and 17-18 stand rejected as allegedly anticipated by Mikesell. Claim 15 is representative of this grouping of claims. The grouping should not be construed to mean the patentability of any of the claims may be determined in later actions (*e.g.*, actions before a court) based on the groupings. Rather, the presumption of 35 USC § 282 shall apply to each of these claims individually.

Mikesell is directed to systems and methods for restripping files in a distributed file system.[13] Mikesell's Figure 2, reproduced immediately below, is illustrative of the Mikesell system.

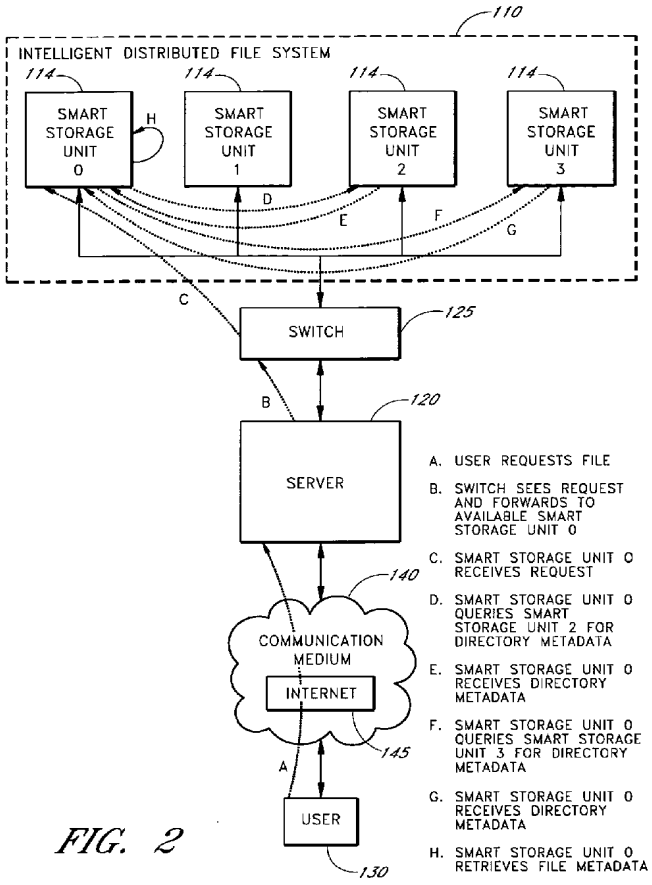

FIG. 2

[13] Mikesell Title.

In particular, a user 130 (bottom middle) interacts with the network server 120.[14] The server 120, in turn, forwards requests to one of the smart storage units selected by switch 125.[15] Files in Mikesell are distributed in blocks across the smart storage units 114 to increase throughput.

> The intelligent distributed file system 110 enables blocks of an individual file to be spread across multiple smart storage units 114. This data is stored such that access to the data provides a higher throughput rate than if the data was stored on a single device.[16]

However, while the server 120 and switch 125 may direct requests to particular smart storage units 114, each smart storage unit 114 itself makes determinations as to which smart storage unit 114 to store data and from where to retrieve data. Mikesell's Figure 3 is reproduced immediately below. In particular, each smart storage unit 114 contains a plurality of modules 320 and 330 which perform operations in response to read and write requests from the user 130.[17] For example, the block allocation manager 331 (and in particular the forward allocator module) determines to which smart storage units 114 to stripe data blocks of file to be stored.[18] As another example, the remote block manager 337 manages inter-device communication for reads and write of data blocks of a file.[19] As yet another example particularly with respect to read operations, the dashed lines of Figure 2 above

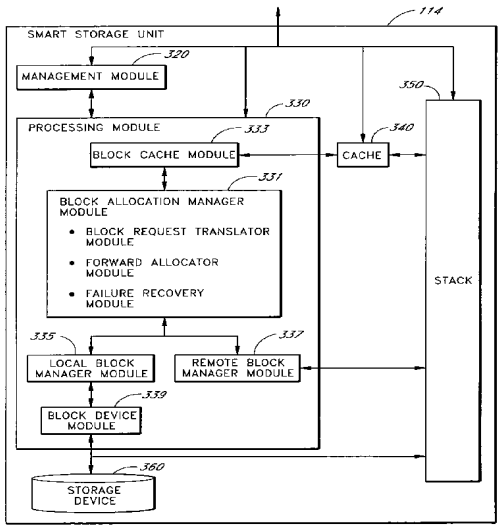

FIG. 3

[14] Mikesell Paragraph [0062], lines 1-9.

[15] Mikesell Paragraph [0062], lines 10-13.

[16] Mikesell Paragraph [0062], lines 13-17.

[17] Mikesell Paragraph [0082], lines 1-7.

[18] Mikesell Paragraph [0099]. The apparent advantage of striping at the block allocator module is an ability to stripe across disks having different sizes. *Id.*

[19] Mikesell Paragraph [0122].

illustrate a read request from user 130, and clearly shows interactions directly between the smart storage units 114 in order to retrieve the requested data.[20] Thus, selection of location to store data blocks, and actual storage the data blocks, is performed by the smart storage units 114, not the server 120.

Representative claim 15, by contrast, specifically recites, "a client computer; a server coupled to the client computer; a first storage device coupled to the server having a storage attribute; a second storage device coupled to the server having a storage attribute; ... wherein the server stores the file on at least one of the first and second storage devices in a global namespace different than the user namespace, the selection of the storage location made by the server based on the attributes of the storage devices and storage preferences for the file." Appellants respectfully submit that the Office action fails to make a *prima facie* case of anticipation. In particular, the Office action relies on Mikesell's user 130 for the claimed "client computer", and relies on the Mikesell's sever 120 for the claimed "server coupled to the client computer"; however, in Mikesell the server 120 appears only to be involved in the initial receipt of a file request from the user 130. The switch 135 picks a smart storage unit 114 to which to forward the file requests, and the smart storage units 114 themselves distribute blocks of files for storage. Thus, Mikesell fails to expressly or inherently teach a "**server** [that] stores the file on at least one of the first and second storage devices; ... the selection of the storage location **made by the server** based on the attributes of the storage devices and storage preferences for the file." For this reason alone the rejection should be overturned and the claims set for issue.

Representative claim 15 further recites, "the server is configured to accept files in a user namespace and in a user file structure." Even if hypothetically the rejection of the Office action is modified such that one of the smart storage units 114 is the claimed "server coupled to the computer client computer" (which Appellants do not admit is proper), Mikesell still fails to expressly or inherently teach such a system. In particular, referencing Figure 2 above, Mikesell

[20] Mikesell Paragraph [0071], lines 1-36.

expressly states that the server 120 receives the request and performs name translation.

> In event A, the user 130 sends a request via the Internet 145 to a web site requesting to view a copy of the movie mymovie.movie. The request is received by the web site's server 120, and the server 120 determines that the file is located at [a particular location]. In event B, the switch sees the request to connect to the intelligent distributed file system 110 and forwards the request to an available smart storage unit 114… .[21]

Thus, even if the rejection is modified such that one of the smart storage units 114 is the claimed server, Mikesell still fails to expressly or inherently teach that the smart storage unit 114 could or should "accept files in a user namespace and in a user file structure." For this additional reason the rejection should be overturned and the claim set for issue.

Further still, even if hypothetically the rejection of Office action is modified to be a Section 103 rejection rather than a Section 102 rejection (which the Appellants do not admit is proper), Mikesell still fails to render obvious the limitations of representative claim 15. In particular, the Manual of Patent Examining Procedures (MPEP) admonishes:

> THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE
>
> If the proposed modification … of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.[22]

The clear principle of operation of Mikesell is for each smart storage unit 114 to have the ability to read and write stripped files across all the smart storage units 114. To modify Mikesell such that only one smart storage unit 114, or alternatively the server 120, has the ability to selection storage locations and to save files, changes the clear principle of operation of Mikesell, and is thus improper.

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[21] Mikesell Paragraph [0071], lines 1-12.

[22] MPEP 8th Ed., Rev. 3, August 2005, Section 2143.01(VI), p 2100-138.

Based on the foregoing, Appellant respectfully submits that the rejections of the claims in this grouping be reversed, and the grouping set for issue.

2. Claim 16

Claim 16 stands rejected as allegedly anticipated by Mikesell.

Claim 16 specifically recites, "a software agent that executes on the server; wherein the software agent interfaces with the client computer and simulates the network storage device operating in the user namespace; and wherein the software agent decides on which of the first and second storage devices to store the file based on the attributes of the storage devices and the storage preference for the file." Appellants respectfully submit that the Office action fails to make a *prima facie* case of anticipation. In particular, the Office action relies on the communication medium 140 (see Figure 2 above) of Mikesell (the Internet) for the claimed software agent. Of course, Mikesell's fails to expressly or inherently teach that the communication medium 140 could or should "decide[] on which of the first and second storage devices to store the file based on the attributes of the storage devices and the storage preference for the file." For this reason alone the rejection should be overturned and the claim set for issue.

Further, even if hypothetically the rejection is modified such that Mikesell's server 120 executes the claimed software agent (which Appellants do not admit), Mikesell's still does not expressly or inherently teach such a system. In Mikesell, the server does not perform any functions related to selecting locations to stripe data blocks – Mikesell's smart storage units 114 perform that task. Thus, even if the rejection is modified Mikesell still fails to expressly or inherently teach a software agent on the sever 120 could or should "decide[] on which of the first and second storage devices to store the file based on the attributes of the storage devices and the storage preference for the file." For this additional reason the rejection should be overturned and the claim set for issue.

Alternatively, even if hypothetically the rejection is modified such that one of Mikesell's smart storage units 114 performs the recited task (which Appellants do not admit), Mikesell's still does not expressly or inherently teach such a

system. Mikesell expressly states that the server 120 receives the request and performs name translation.[23] Thus, even if the rejection is modified such that one of the smart storage units 114 is the claimed server executing the storage agent, Mikesell still fails to expressly or inherently teach that the smart storage unit 114 could or should "interface[] with the client computer and simulate[] the network storage device operating in the user namespace."

Based on the foregoing, Appellant respectfully submits that the rejections of the claims in this grouping be reversed, and the grouping set for issue.

B. Conclusion

For the reasons stated above, Appellant respectfully submits that the Examiner erred in rejecting all pending claims. It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's Deposit Account No. 08-2025.

Respectfully submitted,

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[23] Mikesell Paragraph [0071], lines 1-12.

VIII. CLAIMS APPENDIX

1. (Previously presented) A computer-readable medium storing a program that, when executed by a processor, causes the processor to:

receive a file from a client machine;

create metadata regarding the file, and wherein the metadata defines at least in part data management preferences for the file;

implement, autonomously of a user of the file, storage strategies for the file based on the metadata and in a namespace different than the client machine namespace; and

store the file on one or more storage devices selected by a software agent based on the metadata.

2. (Previously presented) The computer-readable medium as defined in claim 1 wherein when the processor creates metadata the program further causes the processor to receive from at least one of the user or a system administrator a desired access speed for the file.

3. (Previously presented) The computer-readable medium as defined in claim 1 wherein when the processor creates metadata the program further causes the processor to receive from at least one of the user or a system administrator a desired reliability for the file.

4. (Cancelled).

5. (Previously presented) The computer-readable medium as defined in claim 1wherein the program further causes the processor to move the file to a different set of one or more storage devices based on the metadata.

6. (Previously presented) The computer-readable medium as defined in claim 1 wherein the program further causes the processor to delete the file after an expiration of a period of time indicated in the metadata.

7. (Previously presented) The computer-readable medium as defined in claim 1 wherein the program further causes the processor to provide the file to the user from a storage device without the user having to select the source from which the file is provided.

8. (Previously presented) A computing system comprising:
a host computer that executes user programs;
a server coupled to the host computer;
a plurality of storage devices coupled to the server;
wherein the host computer communicates files to the server for storage on at least one of the plurality of storage devices, wherein the server appears to be a network storage device operating in a user name space and in a user file structure; and
wherein the server selects on which of the plurality of storage devices to store the files on a file-by-file basis based on storage characteristic preferences supplied for each file, and wherein each file is stored under a globally unique name in a global namespace of the server.

9. (Previously presented) The computer system as defined in claim 8 wherein each of the plurality of storage devices has an access speed, and wherein the server selects one or more of the plurality of storage devices based on access speed preferences supplied for each file.

10. (Previously presented) The computer system as defined in claim 8 wherein each of the plurality of storage devices has a reliability, and wherein the server selects one or more of the plurality of storage devices based on reliability preferences supplied for each file.

11. (Previously presented) The computer system as defined in claim 8 wherein the server migrates a file from a first of the plurality of storage devices to

a second of the plurality of storage device without direction from the user programs.

12. (Previously presented) The computer system as defined in claim 11 wherein the server migrates the file based on expiration of a time period specified in the storage characteristic preferences for the file.

13. (Previously presented) The computer system as defined in claim 11 wherein the server migrates the file based on obsolescence of the first of the plurality of storage devices as determined by the programs executing on the server.

14. (Previously presented) The computer system as defined in claim 8 wherein the server deletes a file from the plurality of storage devices without direction from the user programs based on expiration of a time period specified in the storage characteristic preferences for the file.

15. (Previously presented) A system comprising:

a client computer;

a server coupled to the client computer;

a first storage device coupled to the server having a storage attribute;

a second storage device coupled to the server having a storage attribute;

wherein the server is configured to accept files in a user namespace and in a user file structure; and

wherein the server stores the file on at least one of the first and second storage devices in a global namespace different than the user namespace, the selection of the storage location made by the server based on the attributes of the storage devices and storage preferences for the file.

16. (Previously presented) The system as defined in claim 15 wherein the server further comprises:

a software agent that executes on the server;

wherein the software agent interfaces with the client computer and simulates the network storage device operating in the user namespace; and

wherein the software agent decides on which of the first and second storage devices to store the file based on the attributes of the storage devices and the storage preference for the file.

17. (Previously presented) The system as defined in claim 16 wherein the server further comprises:

a software service that executes on the server; and

wherein the software service stores the file on one of the first and second storage devices based on instructions from the software agent.

18. (Previously presented) The system as defined in claim 17 further comprising:

a first software service associated with the first storage device, the first software service executes on the server;

a second software service associated with the second storage device, the second software service executes on the server; and

wherein the software agent directs at least one of the first and second software services to store the file on the storage device to which the software service is associated.

19. (Previously presented) A computing system comprising:

a first means for executing programs;

a second means for executing programs coupled to the first means for executing;

a plurality of means for storing programs and data coupled to the second means for executing;

wherein the first means for executing communicates files to the second means for executing for storage on at least one of the plurality means for storing, wherein the second means for storing to be a network storage device operating in a file structure of the first means for executing; and

wherein program executing on the second means executing selects on which of the plurality of means for storing to store the files on a file-by-file basis based on storage characteristic preferences supplied for each file, and wherein each file is stored under a globally unique name in a global namespace of the plurality of means for storing.

20. (Original) The computer system as defined in claim 19 wherein each of the plurality of means for storing has an access speed, and wherein the program executing on the second means for executing selects one or more of the plurality of means for storing based on access speed preferences supplied for each file.

21. (Original) The computer system as defined in claim 19 wherein each of the plurality of means for storing has a reliability, and wherein the program executing on the second means for executing selects one or more of the plurality of means for storing based on reliability preferences supplied for each file.

22. (Original) The computer system as defined in claim 19 wherein the program executing on the second means for storing migrates a file from a first of the plurality of means for storing to a second of the plurality of means for storing without direction from the user programs.

23. (Original) The computer system as defined in claim 22 wherein the program executing on the second means for storing migrates the file based on

expiration of a time period specified in the storage characteristic preferences for the file.

24. (Original) The computer system as defined in claim 22 wherein the program executing on the second means for storing migrates the file based on obsolescence of one of the plurality of means for storing as determined by the program executing on the second means for storing.

25. (Original) The computer system as defined in claim 19 wherein the program executing on the second means for storing deletes a file from the plurality of means for storing without direction from the user based on expiration of a time period specified in the storage characteristic preferences for the file.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.